

## CLAIMS

What is claimed is:

1. A method for resynchronizing a primary volume in a primary system and a secondary volume in a secondary system over a network, comprising:

when a network connection between the primary system and the secondary system is interrupted:

creating a snapshot of the primary volume;

determining data updates transmitted from the primary system to the secondary system that were not acknowledged by the secondary system;

when the network connection is reestablished:

determining differences between the snapshot and the primary volume, wherein the differences comprise data in the primary volume that were changed between when the network connection is interrupted and reestablished; and

transmitting the differences and the unacknowledged data updates from the primary system to the secondary system.

2. The method of claim 1, further comprising, when the network connection is reestablished, updating the secondary volume with the differences and the unacknowledged data updates, wherein the secondary volume becomes an updated copy of the primary volume.
3. The method of claim 1, prior to said creating a snapshot, further comprising blocking writes to the primary volume.
4. The method of claim 3, after said creating a snapshot and said determining data updates, further comprising resuming writes to the primary volume.
5. The method of claim 1, further comprising deleting the snapshot after said transmitting.
6. The method of claim 1, wherein said determining differences between the snapshot and the primary volume comprises looking up exception tables in the snapshot.

7. A method for resynchronizing a primary volume in a primary system and a secondary volume in a secondary system over a network, comprising:

when a network connection between the primary system and the secondary system is interrupted:

blocking writes to the primary volume;

creating a snapshot of the primary volume;

resuming writes to the primary volume;

when the network connection is reestablished:

determining differences between the snapshot and the primary volume, wherein the differences comprise data in the primary volume that were changed between when the network connection is interrupted and reestablished;

transmitting the differences and the unacknowledged data updates from the primary system to the secondary system;

updating the secondary volume with the differences and the unacknowledged data updates, wherein the secondary volume becomes an updated copy of the primary volume; and

deleting the snapshot after said transmitting.